DRAFT

WASTEWATER MANAGEMENT PERMIT

This permit is issued under the provisions of Chapter 342D, Hawaii Revised Statutes, and Chapter 11-62, Hawaii Administrative Rules, Department of Health, State of Hawaii.

Hawaiian Earth Recycling LLC
Waialua Composting Facility

(herein "Permittee")

is hereby authorized to operate the **Hawaiian Earth Recycling Waialua Composting Facility** wastewater sludge composting facility located at 65-1101 Wilikina Drive, Waialua, Hawaii, Tax Map Key (1)6-5-002:026 in accordance with the sludge limitations, monitoring requirements, and other conditions set forth herein, and in the attached Department of Health "Individual and General Permit Standard Conditions", dated April 15, 1997.

Acceptance of this permit constitutes an acknowledgment and agreement that the holder will comply with all rules, regulations, orders of the Department, and the conditions precedent to the granting of this permit.

This permit shall become effective _____.

This permit shall expire at midnight, _____.

_____
(for) LORETTA J. FUDDY, A.C.S.W, M.P.H.
Director of Health
State of Hawaii

PART A. GENERAL CONDITIONS

1. The Permittee shall comply with all Federal and State regulations, and any National Pollutant Discharge Elimination System (NPDES), Underground Injection Control (UIC), and Solid Waste permits issued to the Facility by the Department of Health.

2. The Permittee shall comply with Hawaii Administrative Rules (HAR), chapter 11-62, Appendix A, Individual and General Permit Standard Conditions (attached).

3. The Permittee shall retain a copy of the permit application, the individual permit, and the Operations Manual at the Facility and comply with all materials submitted in and with the permit application.

4. The Permittee shall ensure that all wastewater pumpers and haulers that bring wastewater sludge to the Facility shall be registered with the State. Copies of the wastewater sludge manifests shall be made available to the Director upon request.

5. The Permittee shall submit an Operations Manual within sixty (60) days of the permit issuance. The Operations Manual shall include all sampling locations, sampling protocols, procedures for calibrating thermometers, and a sample product label.

6. The Permittee shall notify the Director, in writing, of any changes to information on file with the Department of Health as soon as changes arise. A revised Operations Manual reflecting these changes shall be submitted for the Director's review and approval prior to implementation. Depending on the extent of the proposed changes, a modification to this permit may be required.

7. The Permittee shall submit a copy of all requests for test analyses, chain of custody forms, and test analyses results, including all test results that do not meet the requirements with each report. The Permittee shall submit signed copies of all reports required by this permit to the Director at the following address or as otherwise specified:

   Director of Health
   Wastewater Branch
   919 Ala Moana Boulevard, Room 309
   Honolulu, Hawaii 96814

8. The Permittee shall include the following certification statement and signature on each submittal in accordance with §11-55-07(b), HAR:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations."

9. The Permittee shall include the Wastewater Management (WWM) permit number on each submittal. Failure to provide the assigned WWM permit number for this Facility on future correspondence or submittals may be a basis for delay of the processing of the document(s).

PART B. SPECIAL CONDITIONS

1. All wastewater sludge composting activities shall be conducted in accordance with the applicable portions of 40 CFR 503 and chapter 11-62, HAR.

2. **Composting Process**. The Facility will employ the in-vessel, aerated static pile (ASP) method to produce Class A, exceptional quality wastewater sludge compost. This method is prescribed in 40 CFR 503, Appendix B, Section B, *Process to Further Reduce Pathogens*, ¶1, *Composting*. The Environmental Protection Agency (EPA) Pathogen Equivalency Committee (PEC) reviewed the Gore™ process and determined that it "meets the definition of Alternative 5, Use of a PFRP[a] process." The composting process is conducted in three (3) phases:

   a. Phase 1: High Rate Composting - minimum 21 days. Wastewater sludge shall be mixed with greenwaste or a bulking agent and placed in heaps on the GORE® pad. Leachate may be added as necessary to achieve optimum moisture content only during initial mixing. Aerated static piles shall be covered by GORE® Cover Composting Technology. Both pathogen and vector attraction reduction must be accomplished in Phase 1.

   b. Phase 2: Maturation - minimum 14 days. Material from Phase 1 heaps shall be well mixed, placed on the GORE® pad, and covered by GORE® Cover Composting Technology. Leachate shall not be used to adjust moisture content in Phase 2. Both pathogen and vector attraction reduction must be accomplished in Phase 2. The Permittee may conduct the temperature demonstration project described in Special Condition 13.a.iv, then submit the temperature data to the Director with a request to drop the requirement to meet the pathogen and vector attraction reduction criteria in Phase 2.

   c. Phase 3: Finishing - duration as needed. Material from Phase 2 heaps shall be well mixed, placed in heaps, and covered by GORE® Cover Composting Technology. Leachate shall not be used to adjust moisture content in Phase 3.

   d. Product storage (post screening): Compost which has met time and temperature requirements for pathogen and vector attraction reduction will be stored in piles pending the results of metals and pathogen density monitoring.

   e. Compost containing wastewater sludge shall be kept separate at all times from compost containing food waste. Leachate from the wastewater sludge compost shall not be used on compost containing food waste.

[a] Process to Further Reduce Pathogens.

3. **Pathogen Reduction**.

   a. The Permittee shall demonstrate that the wastewater sludge compost meets the Class A pathogen requirements of sections 11-62-46(a)(6) and 11-62-46(d)(1)(B), HAR, and 40 CFR 503, Appendix B, Section B.1.

   b. Using the in-vessel ASP composting method, the temperature of the wastewater sludge compost shall be maintained at 55 degrees Celsius (131 degrees Fahrenheit) or higher for three (3) consecutive days. Logs of the daily temperatures of each heap shall be submitted to the Director with the monthly report.

   c. The pathogen density shall be met at the time the wastewater sludge compost is used, disposed, or prepared for sale or given away. The compost must therefore be monitored for pathogen density not more than sixty (60) days before land application or bulk distribution unless otherwise specified.

      i. Each sampling event shall consist of seven (7) grab samples analyzed separately for either fecal coliform or *Salmonella* sp. bacteria.

      ii. For each sample taken, the fecal coliform density shall be less than 1,000 Most Probable Number (MPN) per gram of total solids (dry weight basis) or for each sample, the *Salmonella* sp. Bacteria shall be less than three MPN per four grams of total solids (dry weight basis). If a sample exceeds the pathogen density for an organism, the compost cannot be retested for distribution using the same organism. The compost, however, can be tested to meet the pathogen density using the other organism.

4. **Vector Attraction Reduction**.

   a. The wastewater sludge compost shall meet the vector attraction reduction requirements of section 11-62-47, HAR.

   b. The wastewater sludge shall be treated in an aerobic process for 14 days or longer. During that time, the minimum temperature of the wastewater sludge shall be higher than 40 degrees Celsius (104 degrees Fahrenheit) and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius (113 degrees Fahrenheit). Logs of the daily temperatures of each heap shall be submitted to the Director with the monthly report.

   c. Vector attraction reduction treatment may be done simultaneously with pathogen reduction treatment.

5. **Pollutant Limits**. Pollutant concentration shall not exceed the ceiling limits specified in Chapter 11-62, Table IV, HAR and listed below.

Pollutant	**Ceiling Limit** (mg/kg, dry weight basis)
Arsenic	20
Cadmium	15
Chromium	200
Copper	1,500
Lead	300
Mercury	10
Molybdenum	15
Nickel	100
Selenium	25
Zinc	2,000

6. Each heap of wastewater sludge compost must meet the pathogen and vector reduction criteria specified in Special Conditions 3 and 4 before moving it to the post-screening product storage area.

7. All wastewater sludge compost generated by the Permittee shall meet the Class A exceptional quality criteria specified in section 11-62-42(a) and as specified in Special Conditions 3, 4, and 5. No compost shall be distributed unless tests show that the criteria in Special Conditions 3, 4, and 5 have been met. If the wastewater sludge compost does not meet these criteria:

   a. The wastewater sludge compost cannot be land applied and must either be reprocessed with a new batch of compost, disposed of in a municipal solid waste landfill, or sent off site to another wastewater sludge facility for further treatment.

   b. The Permittee shall report the heap number, the volume of the heap, the reason the compost did not meet the requirements, and the final disposition of the compost in the applicable monthly report. If the compost is to be reprocessed with incoming material, the new heap number must be logged and cross-referenced to the heap which did not pass.

8. This permit allows the Facility to receive up to 4,300 dry metric tons per year of dewatered sludge from the Honouliuli Wastewater Treatment Plant (WWTP) and up to 900 dry metric tons per year of dewatered sludge from the Kailua Regional WWTP for processing into compost. Should the Permittee wish to process sludge from another WWTP, they must submit sludge monitoring data from the WWTP to the Director along with a request to modify this permit. Adding sludge from another WWTP will be considered a major modification of this permit.

9. The Permittee is responsible for assuring that all wastewater sludge received or generated at the Facility is used or disposed of in accordance with 40 CFR 257, 258, and 503, and Chapters 11-58.1 and 11-62, HAR, whether the Permittee reuses or disposes of the wastewater sludge directly or transfers the wastewater sludge to another entity for further treatment, reuse, or disposal. The Permittee is responsible for informing the subsequent preparers, appliers, and disposers of the requirements which these entities must meet under 40 CFR 257, 258, and 503, and Chapters 11-58.1 and 11-62, HAR. All wastewater sludge generated or received from other wastewater systems by the Permittee shall be reused or disposed of in accordance with the applicable portions of:

   a. 40 CFR 503 and Chapter 11-62, HAR: For wastewater sludge that is land applied, placed in a surface disposal site, or incinerated.

   b. 40 CFR 258 and Chapter 11-58.1, HAR: For all wastewater sludge that is disposed in municipal solid waste landfills;

   c. 40 CFR 257 and Chapter 11-62, HAR: For all wastewater sludge use and disposal practices not covered in 40 CFR 258 or 503.

10. **Sampling and Analysis**.

   a. Wastewater sludge compost shall be tested quarterly for organic-N, ammonium-N, and nitrate and yearly for Phosphorus and Potassium.

   b. Wastewater sludge compost shall be tested annually for PCBs. Compost containing PCBs equal to or greater than 50 mg/kg of total solids (100% dry weight basis) shall be disposed of in accordance with 40 CFR 761.

   c. Wastewater sludge compost shall be tested for the pollutants listed in Special Condition 5 using Test Methods for Evaluating Solid Waste Physical/Chemical Methods", EPA Publication SW–846 at the monitoring frequency specified below.

Amount of Wastewater Sludge (or material derived from sludge) in Metric Tons per 365 day period, dry weight basis	**Monitoring Frequency**
Greater than zero but less than 290	Once per year
Equal to or greater than 290 but less than 1,500	Once per quarter
Equal to or greater than 1,500 but less than 15,000	Once per 60 days
Equal to or greater than 15,000	Once per month

   i. Sampling procedures shall follow the protocol established in the Permittee's Sampling and Analysis Plan. These procedures shall be included in the Operations Manual to be submitted in accordance with General Condition 5.

   ii. The Permittee shall ensure that the sample collected is representative either by collecting incremental samples over time as the pile is built or by taking incremental samples around the perimeter and from varying

elevations and depths of the compost pile. A minimum of forty (40) incremental samples shall form the composite sample used for testing purposes.

11. **Storage and Handling**.

a. No wastewater sludge shall be allowed to enter wetlands or other waters of the United States.

b. Wastewater sludge treatment, storage, reuse, or disposal shall not contaminate groundwater.

c. Wastewater sludge treatment, storage, reuse, or disposal shall be performed in a manner as to minimize nuisances such as objectionable odors or flies.

d. If the non-exceptional quality wastewater sludge is transported for off-site treatment or disposal, the Permittee shall use only haulers registered in the State. In addition, the Permittee shall assure that haulers take all necessary measures to keep the wastewater sludge contained.

e. If the wastewater sludge is stored for over two years from the time it was generated, the Permittee must ensure compliance with all requirements for surface disposal in 40 CFR 503 Subpart C and section 11-62-45, HAR.

12. **Notification.** The Permittee shall comply with the following notification requirements:

a. The Permittee shall notify the applier(s) in writing of the nitrogen, phosphorus, and potassium content of the wastewater sludge, and of all the appliers' requirements in chapter 11-62, HAR, including the application rates in section 11-62-42(e).

b. If wastewater sludge is shipped to another State/Tribal Land, the Permittee must send notice prior to the initial shipment of wastewater sludge to the permitting authorities in the receiving State/Tribal Land.

13. **Records Retention.** Records regarding the wastewater sludge processing including end-product transactions including receipts, invoices, billings, and/or manifests, shall be maintained for a minimum of five (5) years. Records of all analytical testing data and temperature monitoring data shall also be maintained for a minimum of five (5) years. Copies shall be made available to the Director upon request.

14. **Reporting.**

a. Monthly Report: The Permittee shall record and submit to DOH all wastewater sludge activities no later than the tenth (10^{th}) day of the following month The report shall contain the following information:

i. Monthly summary of the amount of wastewater sludge (in dry metric tons) received from each WWTP;

ii. Temperature logs demonstrating that each heap moved to post-screening product storage met the criteria for pathogen reduction and vector attraction reduction;

iii. The results of analysis (concentration of pollutants) performed on final wastewater sludge compost product;

iv. Amount of wastewater sludge compost distributed;

v. Amount of wastewater sludge compost that did not meet the requirements of Special Conditions 3, 4, and 5 and the disposition of off spec compost as required in Special Condition 7.b;

vi. Amount of wastewater sludge landfilled; and

vii. A completed Certification Form (chapter 11-62, Form A, HAR).

b. The Permittee may request a reduction in reporting frequency after one year of operation. The decision will be based on the consistency of the finished product. The minimum frequency shall be quarterly.

c. Annual Report: The Permittee shall submit an annual report to the director by February 19 of each year for the period covering the previous calendar year. The report shall include:

i. A wastewater sludge accounting including the amount of wastewater sludge and wastewater sludge compost accumulated from the previous year, the amount of wastewater sludge (in dry metric tons) received from each facility, the amount of wastewater sludge compost distributed, the amount of wastewater sludge compost that did not meet the requirements of Special Conditions 3, 4, and 5 and the disposition of off spec compost as required in Special Condition 7.b, the amount of wastewater sludge compost landfilled, and the amount of wastewater sludge and wastewater sludge compost stored on site at the end of the year.

ii. Names, mailing addresses, and street addresses of wastewater facilities who received wastewater sludge or wastewater sludge compost from the Facility for further treatment, storage, disposal in a municipal solid waste landfill, or for other use or disposal methods not covered above, and the volumes in dry metric tons delivered to each.

iii. Summaries of any major events, such as fires, that occurred at the Facility.

iv. A completed Certification Form (chapter 11-62, Form A, HAR).

15. **Temperature Demonstration Project.**

a. The Permittee may conduct a temperature demonstration project to prove that the standard Gore™ temperature probe location measures the lowest temperature in the heap or that the lowest temperature in the heap can be inferred from temperature recorded at the standard Gore™ temperature probe location.

b. The temperature demonstration project shall consist of daily temperature monitoring of a minimum of four (4) heaps through Phase 1 and Phase 2. The temperatures measured at the standard Gore™ temperature probe location shall

be compared to the temperatures measured at the toe of the heap and six to eight inches from the outlet of the aeration trench.

c. The temperature data shall be submitted to the Director with the Permittee's request to drop the requirement to meet the pathogen and vector attraction reduction criteria in Phase 2.

d. Should the project demonstrate to the Director's satisfaction that the minimum temperature in the heap can be measured or inferred by a temperature probe located at the standard Gore™ temperature probe location, pathogen and vector attraction reduction may be accomplished in Phase 1 alone.